

Notice of Allowability

Application No.

10/042,846

Examiner

Tse Chen

Applicant(s)

HAIMOVSKY ET AL.

Art Unit

2116

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the communication filed on 31 October 2007.
2. ☒ The allowed claim(s) is/are 8,13,31-33,35,40-45,47,49-55 and 57-65.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 20080114.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Applicant Attorney Kirk D. Williams on January 14, 2007.

The application has been amended as follows:

- Claim 8, replace with -- An apparatus comprising:
 - a master system including: a master memory, a storage mechanism for storing a first remote boot image and a second remote boot image, and a master system controller;
 - a first slave system including: a first memory, a first processor, and a first programmable interface coupled to the master system, the first programmable interface including a first system controller;
 - a second slave system including: a second memory, a second processor, and a second programmable interface coupled to the master system, the second programmable interface including a second system controller; and
 - a bus communicatively coupling the master system, the first slave system, and the second slave system;
- wherein the master system is configured to interrogate the first or the second slave systems to identify their respective one or more characteristics after the master system is booted and the respective first or second system controller is released by said booted master system;

wherein the master system is configured to determine that the first remote boot image should be used for the first slave system in response to said interrogation of the first slave system and based on said identified one or more characteristics of the first slave system, to update the first programmable interface to cause the first slave system to retrieve the first remote boot image and to boot from said retrieved first remote boot image, and to release the first processor for booting from the first remote boot image after said updating the first programmable interface; and

wherein the master system is configured to determine that the second remote boot image should be used for the second slave system in response to said interrogation of the second slave system and based on said identified one or more characteristics of the second slave system, to update the second programmable interface to cause the second slave system to retrieve the second remote boot image and to boot from said retrieved second remote boot image, and to release the second processor for booting from the second remote boot image after said updating the second programmable interface;

wherein said updating the first programmable interface and the second programmable interface includes: the master system assigning each of the first and the second system controllers an address or range of addresses to be used by the master system for accessing registers of the first and the second system controllers; and the master system manipulating said registers of the first and second system controllers and programming the master system controller such that a boot address that is part of a boot-code range of addresses is redirected for accessing the first remote boot image by the first slave system and the second remote boot image by the second slave system. --

- Claim 13, replace with -- A method performed in an apparatus including a master system communicatively coupled to a slave system, the master system including a master processor, a master memory associated with the master processor, a master system controller, and a storage mechanism configured to store information, the information including a plurality of remote boot images; the slave system including a slave processor, a slave controller and a memory associated with the slave processor; the method comprising:

the master system, after the master system is booted and the slave controller is released, performing one or more operations to interrogate the slave system to identify one or more characteristics of the slave system, and to determine a boot image of the plurality of remote boot images based on said one or more characteristics identified during said one or more interrogation operations;

the master system assigning the slave controller an address or range of addresses to be used by the master system for accessing one or more registers of the slave controller;

the master system manipulating said one or more registers of the slave controller, programming the master system controller such that a boot address that is part of a boot-code range of addresses is redirected for accessing said determined boot image by the slave system, and releasing the slave processor for booting from said determined boot image after manipulating said one or more registers of the slave controller;

the slave controller sending a boot request to the master system controller;

the master system controller, in response to the boot request, causing said determined boot image to be retrieved from the storage mechanism and communicated to the slave controller;

the slave controller relaying said determined boot image to the slave processor or the memory associated with the slave processor; and

the slave processor booting with said determined boot image. --

- Claim 40, change “during the interrogation operation to be retrieved” to -- during said one or more interrogation operations --.

- Claim 45, replace with -- An apparatus comprising:
a master system; and
a slave system including: a memory, a processor, and a programmable interface coupled to the master system, the programmable interface including a slave system controller;

wherein the master system includes: a master memory, a storage mechanism for storing a plurality of remote boot images, the plurality of remote boot images including a remote boot image; a master system controller; means for performing, after the master system is booted and the slave system controller is released, one or more operations to identify one or more characteristics of the slave system, said one or more operations including interrogating the slave system to identify its respective said one or more characteristics; means for determining that the remote boot image of the plurality of remote boot images should be used for the slave system in response to said interrogation of the slave system and based on said identified one or more characteristics of the slave system; and means for updating the programmable interface of the slave system before the processor of the slave system is released, to cause the slave system to retrieve and boot from the remote boot image, including means for assigning, by the master system, the slave system controller an address or range of addresses to be used by the master system for accessing one or more registers of the slave system controller, and means for

manipulating, by the master system, said one or more registers of the slave system controller and programming the master system controller such that a boot address that is part of a boot-code range of addresses is redirected for accessing the remote boot image by the slave system. --

- Claim 47, change “the original boot address” to -- an original boot address --.
- Claim 52, replace with -- An apparatus comprising:

a master system including: a master memory and a storage mechanism for storing a first remote boot image; and a master system controller;

a first slave system including: a first memory, a first processor, and a first programmable interface coupled to the master system, the first programmable interface including a first system controller; and

wherein the master system is configured to interrogate, after the master system is booted and the first system controller is released, the first slave system to identify one or more characteristics of the first slave system; wherein the master system is configured to determine that the first remote boot image should be used for the first slave system in response to said interrogation of the first slave system and based on said identified one or more characteristics of the first slave system, to update the first programmable interface to cause the first slave system to retrieve the first remote boot image, and to release the first processor for booting from the first remote boot image after updating the first programmable interface;

wherein said operation of updating the first programmable interface includes: the master system assigning the first system controller an address or range of addresses to be used by the master system for accessing one or more registers of the first system controller; and the master system manipulating said one or more registers of the first system controller and programming

the master system controller such that a boot address that is part of a boot-code range of addresses is redirected for accessing the first remote boot image by the first slave system. --

- Claim 57, change "the original boot address" to -- an original boot address --.
- Claim 58, delete "operation of".

2. The following is an examiner's statement of reasons for allowance: the claim is allowable because none of the prior art(s) cited, anticipate(s) or render(s) obvious an apparatus of claim 8 "... wherein the master system is configured to interrogate the first or the second slave systems to identify their respective one or more characteristics after the master system is booted and the respective first or second system controller is released by said booted master system... to release the first processor for booting from the first remote boot image after said updating the first programmable interface... to release the second processor for booting from the second remote boot image after said updating the second programmable interface... wherein said updating the first programmable interface and the second programmable interface includes: the master system assigning each of the first and the second system controllers an address or range of addresses to be used by the master system for accessing registers of the first and the second system controllers; and the master system manipulating said registers of the first and second system controllers and programming the master system controller such that a boot address that is part of a boot-code range of addresses is redirected for accessing the first remote boot image by the first slave system and the second remote boot image by the second slave system... " in conjunction -- i.e., viewed as a whole -- with the other limitations of the associated claim; a method of claim 13 comprising "... the master system, after the master system is booted and the slave controller is released, performing one or more operations to interrogate the slave system to identify one or

more characteristics of the slave system... the master system assigning the slave controller an address or range of addresses to be used by the master system for accessing one or more registers of the slave controller... the master system manipulating said one or more registers of the slave controller, programming the master system controller such that a boot address that is part of a boot-code range of addresses is redirected for accessing the remote boot image by the slave system, and releasing the slave processor for booting from said determined boot image after manipulating said one or more registers of the slave controller..." in conjunction -- i.e., viewed as a whole -- with the other limitations of the associated claim; an apparatus of claim 45 comprising "...means for performing, after the master system is booted and the slave system controller is released, one or more operations to identify one or more characteristics of the slave system... means for updating the programmable interface of the slave system before the processor of the slave system is released, to cause the slave system to retrieve and boot from the remote boot image, including means for assigning, by the master system, the slave system controller an address or range of addresses to be used by the master system for accessing one or more registers of the slave system controller, and means for manipulating, by the master system, said one or more registers of the slave system controller and programming the master system controller such that a boot address that is part of a boot-code range of addresses is redirected for accessing the remote boot image by the slave system..." in conjunction -- i.e., viewed as a whole -- with the other limitations of the associated claim; and an apparatus of claim 52 "... wherein the master system is configured to interrogate, after the master system is booted and the first system controller is released, the first slave system to identify one or more characteristics of the first slave system... to release the first processor for booting from the first remote boot image

after updating the first programmable interface... wherein said operation of updating the first programmable interface includes: the master system assigning the first system controller an address or range of addresses to be used by the master system for accessing one or more registers of the first system controller; and the master system manipulating said one or more registers of the first system controller and programming the master system controller such that a boot address that is part of a boot-code range of addresses is redirected for accessing the first remote boot image by the first slave system” in conjunction -- i.e., viewed as a whole -- with the other limitations of the associated claim.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tse Chen whose telephone number is (571) 272-3672. The examiner can normally be reached on Monday - Friday 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Rehana Perveen can be reached on (571) 272-3676. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to be 'Tse Chen', with a long horizontal stroke extending to the right.

Tse Chen
January 14, 2008